O’ZBEKISTON RESPUBLIKASI ALOQA, AXBOROTLASHTIRISH VA TELEKOMMUNIKATSIYA TEXNOLOGIYALARI DAVLAT QO’MITASI

TOSHKENT AXBOROT TEXNOLOGIYALARI UNIVERSITETI

“Dasturiy injiniring” fakulteti

KURS ISHI

Mavzu: Supermarket axborot tizimini avtomatlashtirish

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Toshkent 2015

Kirish

Yangi XXI - asrda axborot texnologiyalari hayotimizning turli jabhalariga kirib borishi axborotlashgan jamiyatning shakllantirishga zamin yaratib bermoqda. "Internet", "Elektron pochta", "Elektron ta'lim", "Elektron boshqaruv", "Elektron hukumat", "Masofaviy ta'lim", "Ochiq ta'lim", "Axborotlashgan iqtisod" kabi tushunchalar hayotimizga kirib kelishi jamiyatimizning axborotlashishiga intensiv ta'sir ko`rsatmoqda. Axborot - kommunikatsiya texnologiyalari orqali mamlakatlarning milliy iqtisodi globallashib, axborotlashgan iqtisod shakliga o'tmoqda, ya'ni milliy iqtisoddagi axborot va bilimlarning 90 % so'nggi 30 yil mobaynida yaratilgan bo'lib, ular hajmining ko'payib borishi axborot-kommunikatsiya texnologiyalaridan samarali foydalanishni talab etmoqda.

Bunday dasturiy taminotlarni yaratishda bizga dasturlash tillari yordam beradi. Misol uchun Java dasturash tili xozirgi kunda eng ommabob til xisoblanadi Demak ushbu tilda dastur yaratish Axborot kummunikatsiya texnologiyalari soxasidagi barcha dasturchilarini asosiy masalasidir. Chunki Java tilida istalgan dasturni yaratish mumkin.

Shu maqsatda men xam Supermarket axborot tizimini avtomatlashtirish dasturini ishlab chiqishga qaror qildim. Dastur supermarketda ishlaydigan hadimlarni, Shuningdek supermarketga yangi kelgan mahsulotlar nomi, narxi, soni va boshqa bir qancha malumotlari bo’yicha Malumotlar bazasiga kiritib boriladi. Ushbu vazifani bajarish uchun quyidagi vazifalar belgilandi: obyektga yo’naltirilgan java dasturlash tilini o’rganish, javada foydalanuvchi interfeyslarini(Java Swing) yaratishni o’rganish, malumotlar bazasi bilan ishlashni o’rganish, supermarket axborot tizimini avtomatlashtirish

II. NAZARIY QISM

2.1 Java dasturlash tili xaqida umumiy tushuncha

Tarixi: Java dasturlash tili — eng yaxshi dasturlash tillaridan biri bo‘lib unda korporativ darajadagi mahsulotlarni(dasturlarni) yaratish mumkin.Bu dasturlash tili Oak dasturlash tili asosida paydo bo‘ldi. Oak dasturlash tili 90-yillarning boshida Sun Microsystems tomonidan platformaga(Operatsion tizimga) bog‘liq bo‘lmagan holda ishlovchi yangi avlod aqlli qurilmalarini yaratishni maqsad qilib harakat boshlagan edi. Bunga erishish uchun Sun hodimlari C++ ni ishlatishni rejalashtirdilar, lekin ba’zi sabablarga ko‘ra bu fikridan voz kechishdi.Oak muvofaqiyatsiz chiqdi va 1995-yilda Sun uning nomini Java ga almashtirdi, va uni WWW rivojlanishiga hizmat qilishi uchun ma’lum o‘zgarishlar qilishdi.

Java Obyektga Yo‘naltirilgan Dasturlash(OOP-object oriented programming) tili va u C++ ga ancha o‘xshash.Eng ko‘p yo‘l qo‘yildigan xatolarga sabab bo‘luvchi qismalari olib tashlanib, Java dasturlash tili ancha soddalashtirildi.

Java kod yozilgan fayllar(*.java bilan nihoyalanuvchi) kompilatsiyadan keyin bayt kod(bytecode) ga o‘tadi va bu bayt kod interpretator tomonidan o‘qib yurgizdiriladi.

Imkoniyatlari: Bugungi kunga kelib kompyuter va Internetda ishlovchi ko‘plab foydalanuvchilar Java haqida bir oz bo‘lsada tushunchaga ega bo‘lganlar.

Java dastirlash tilida C va C++ tilining konstruksiyalari, operatorlari va funksiyalaridan yetarlicha foydalanilgan bo‘lib, u yangicha uslubdagi ob’yektga yo‘naltirilgan tamoyillar kiritilgan. Unda dastur tuzish va o‘rganishning osonligi, yaratilgan dasturlarning ixtiyoriy platformada ishlata olish, Internet uchun ixcham dasturlar tuzish, xotirani “chiqindi”lardan avtomatik tozalash, imkoniyatining mavjudligi uning ommabopligini oshirdi. Java dasturlari Java virtual mashinasi (JVM) deb ataluvchi mexanizmning bayt-kodlari orqali kompilyatsiya qilinganligi uchun ixtiyoriy operatsion tizimda ishlay oladi. Shu sababli, Java dasturlarining ishga tushirilishida vaqt ko‘proq talab qilinadi. Ko‘pchilik foydalanuvchilar uni shu tomonlama tanqid ostiga olishadi.

Java – tilining asosiy yutuqlaridan biri uning tez o’zgaruvchanligidir. Bu til dasturlash muhitiga va dasturlash yondashuvlariga tez moslasha oladi. Undan nafaqat ilovalar yaratishda, balki Internet uchun dasturlar yaratishda ham foydalanish mumkin.

Xavfsizlik (ishonch yuq kodni xavfsiz ishga tushirish).

Xotirani xavfsiz boshqarish (avtomat ravishda keraksiz ma’lumotlarni yig’adi)

Tarmoqda dasturlash

Ko’p oqimli (Multi-thread) dasturlash

Quyidagi farqlar bilan Java C/C++ dan ajralib turadi

- ✓ header fayllar yo’q
- ✓ Preprocessorlar yo’q
- ✓ Goto yo’q
- ✓ Unicode belgilar
- ✓ Avtomat musorlarni yig’adi
- ✓ Ko’rsatkich (pointer) yo’q
- ✓ Operatorlarni qayta yuklash qilish yo’q
- ✓ Dasturda barcha vazifalar class tushunchasi bilan boshlanadi
- ✓ Global o’zgaruvchi va funksiyalar yo’q

2.3.Ma’lumotlar bazasi tuzilmasi

Relyatsion ma'lumotlar bazasini boshqarish tizimi - o`zining ma'lumotlar strukturasi oddiyligi bilan, foydalanuvchi uchun jadval ko`rinishida joylashtirilishi bilan va ma'lumotlar ustidan oson hisob-kitob amallarini bajarish imkoniyati mavjudligi bilan ajralib turadi.

Hozirda relyatsion ma’lumot bazalari o’zining qulayligi tufayli keng miqyosda ishlatilmoqda. Relyatsion ma’lumot bazalari ma’lumotlarni jadvallarga joylashgan va jadvallar orasida mos bog’liqliklarni, ya’ni munosabatni (relyatsiyani) o’rnatishga asoslangan. Ular jadvallar orasidagi turli bog’liqliklarni o’rnatish,

ma’lumot kiritish shakllarini yaratish, hisobot shakllarini chiqarish, turli so’rovlar (Zaprosi) tuzish imkonini beradi.

Relatsion model ma'lumotlarni ikki o`lchamli jadvalda tartiblashga asoslangan. Har bir relatsion jadval ikki o`lchamli massivdan iborat bo`ladi va quyidagi hususiyatlarga ega:

-Jadvalning bir ustunidagi barcha kataklar bir hil tipga mansub(misol uchun bir ustun barcha elementlari tipi simvolli yoki raqamli);

-Jadvalda bir xil qatorlar mavjud emas;

-Ustun va qatorlar ketmaketligi turlicha bo`lishi mumkin;

Relatsion ma'lumotlar bazasi boshqarish tizimining asosiy tushunchalari bu:

* Atribut;

* Relation;

* Kortej;

2.4 Java Swing xaqida

Java/SWING nima – JAVA uchun GUI Framework

• JAVA dasturlarini “look and feel” holatiga keltirish

• Java Foundation Classes (Sun Microsystems) bir qismi

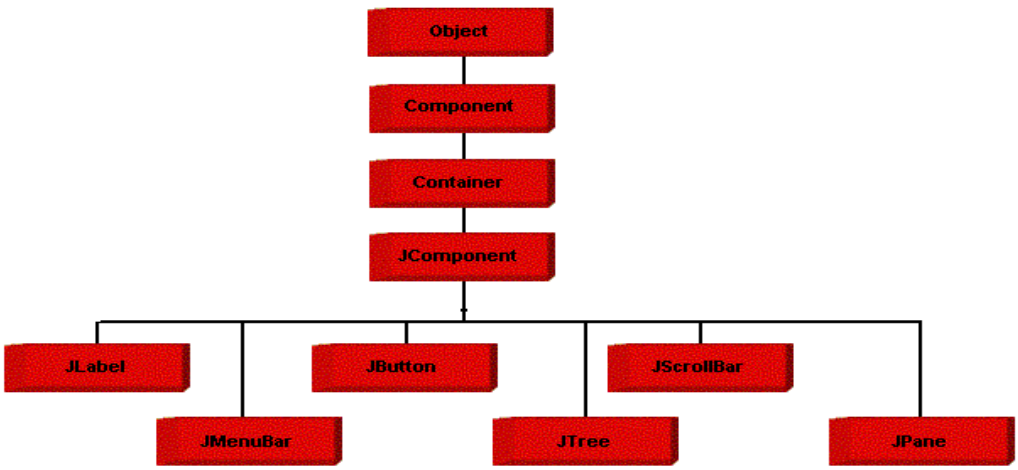
• IFC (Netscape) va JFC (Sun Microsystems) qo’shilgani

• Java Standard Edition 1.2 versiyasidan boshlab paket shaklida qo’shilgan

• GUI controllar java dastur orqali generatsiya qilinadi

• Ko’rinishi va funksionallkin jihatidan Windows, Mac va Linux OS’laridaka

Java Swing class iearxiyasi



javax.accessibility	javax.swing.plaf	javax.swing.text
javax.swing	javax.swing.plaf.basic	javax.swing.text.html
javax.swing.border	javax.swing.plaf.metal	parser
javax.swing.colorchooser	javax.swing.plaf.multi	javax.swing.text.rtf
javax.swing.event	javax.swing.plaf.synth	javax.swing.tree
javax.swing.filechooser	javax.swing.table	javax.swing.undo

Swing Layots

AWT va Swing klaslarining layout manager'lari:
BorderLayout
BoxLayout
CardLayout
FlowLayout
GridBagLayout
GridLayout
GroupLayout
SpringLayout

Java/Swing BorderLayot
BorderLayout

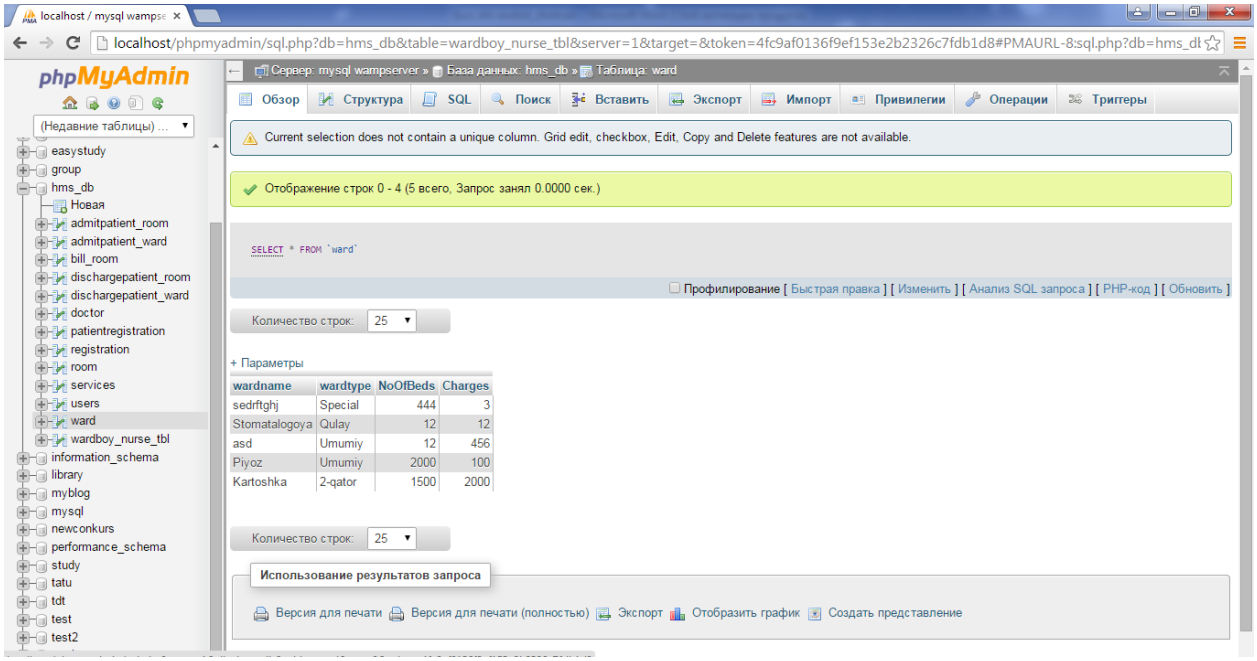
Har bir content pane boshlang'ichda BorderLayout inisalizatsiya qilinadi. BorderLayout componentlarni 5 ta maydonga qo'yadi: top, bottom, left, right, va center.

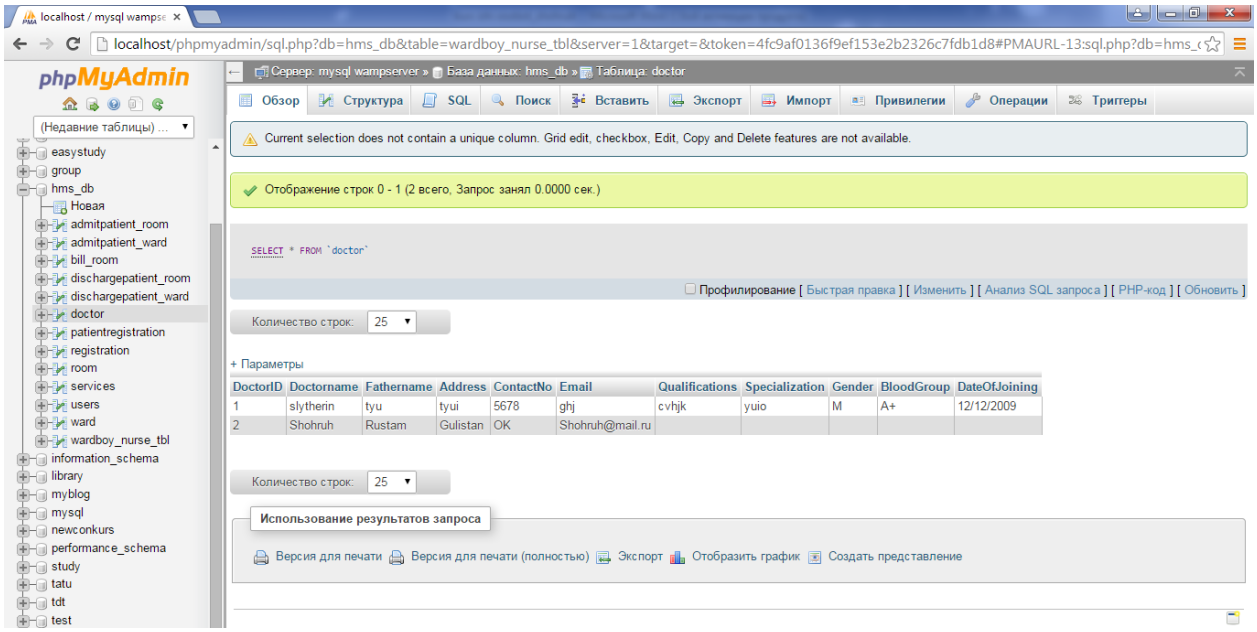
III.AMALIY QISM

3.1. Dastur ma’lumotlar bazasi tuzilmasi Mysql da yaratilgan

Turli xil dasturlar yaratishda bazalar bilan ishlash juda qo`l keladi. Bazalar dastur kodini kamroq, dasturdan ma`lumotni oson qidirib topish uchun kerak bo`ladi. Dasturlarni yaratishda asosan MySQL , SQL , ORACLE, Acsess kabi ma’lumotlar bazalaridan foydalaniladi. Bular orasida MySql ma’lumotlar bazasi o’zning soddaligi, ishlashga qulayligi va foydalanuvchilarining ko`pligi bilan ajralib turadi. Shu sababli, men ham dasturimda MySQL ma’lumotlar bazasidan foydalanishga harakat qildim. Ma’lumotlar bazasi o‘ta tez rivojlangan hamda MySQL va NoSQL o‘zini ko‘rsatgan soha, Internet uchun dasturlar yaratishdir. Internet uchun murakkab va ishonchli dasturlarga ehtiyoj oshgan sari ma’lumotlar bazasiga ehtiyoj ham oshib bormoqda. Server ma’lumotlar bazasi Internetda ko‘p funksiyalarni qo‘llashi mumkin. Har qanday dasturlar ma’lumotlar bazasi tomonidan boshqarilishi mumkin.

Supermarket mahsulotlarini ro’yxatga olish jadvali



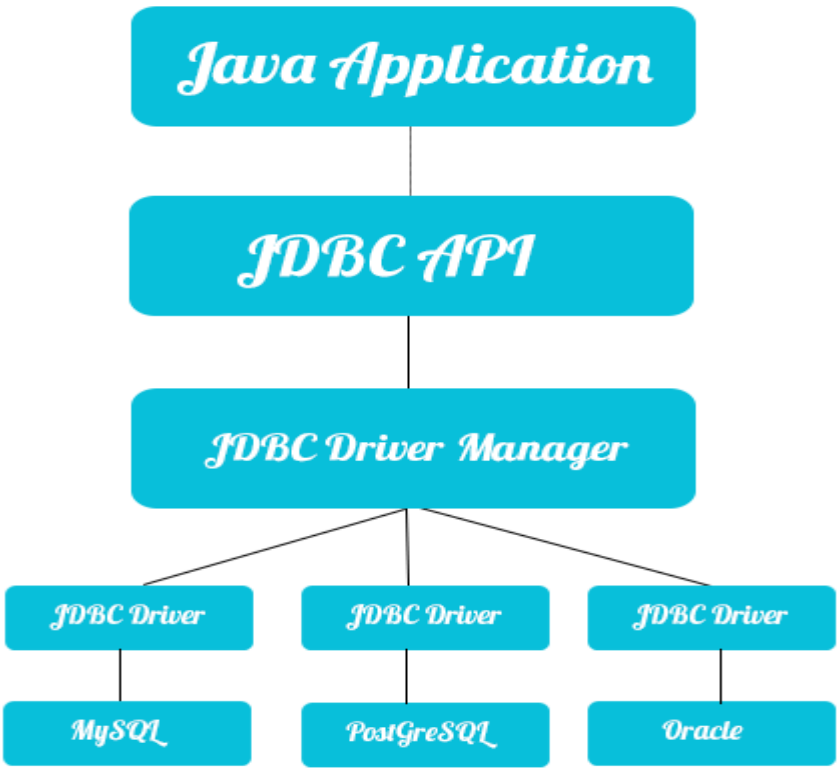


3.2 Java dasturlarini ma’lumotlar bazasi bilan bog’lash

Java dasturlarini ma’lumotlar bazasi bilan bog’lash uchun bizga JDBC drayveri kerak bo’ladi.

JDBC Driver(Java Database Connectivity – Javada ma’lumotlar bazasi bilan bog’lanish) – platformaga bog’liq bo’lmagan, turli ma’lumotlar bazalari bilan bog’lanishga imkon beradigan, JavaSE da java.sql paketi tarkibiga kiritilgan standard drayver xisoblanadi.

JDBC – MBga bog’lanish, unda SQL so’rovlarini bajarishni ta’minlaydi.



Buning uchun quyidagi manzillardan MBga tegishli drayverlarning .jar paketini ko’chirib olamiz:

MySQL — http://dev.mysql.com/downloads/connector/j/

PostqreSLQ — http://jdbc.postgresql.org/download.html

Oracle — http://www.oracle.com/technetwork/database/features/jdbc/index-091264.html

MySQLga ulanish:

```
Class.forName("com.mysql.jdbc.Driver");

Connection conn = DriverManager.getConnection("jdbc:mysql://hostname:port/dbname","username", "password");

conn.close();
```

PostgreSQLga ulanish:

```
Class.forName("org.postgresql.Driver");

Connection connection = DriverManager.getConnection("jdbc:postgresql://hostname:port/dbname","username",
"password");

connection.close();
```

ORACLEga ulanish:

```
Class.forName("oracle.jdbc.driver.OracleDriver");

Connection connection =
DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:mkyong","username","password");

connection.close();
```

1-qatorlarda biz MBga ulanish uchun drayverni ko’rsatyapmiz.

2-qatorlarda JDBC Manager bazaga bog’lanishni bajaradi va undan keyinchalik foydalanishimizga imkon yaratadi.

3-qatorlar bog’lanishni yopadi.

Imkoni bo’lsa JDBC drayverni try{} catch{} ichiga joylash kerak. Bu ish drayverning kompyuterimizda bor ekanligini va ishlashini nazorat qiladi.

```
try {
    Class.forName("com.mysql.jdbc.Driver");
} catch (ClassNotFoundException e) {
    System.out.println("Where is your MySQL JDBC Driver?");
    e.printStackTrace();
    return;
}
```

Javada bazaga bog’lanish uchun klass xosil qilib olamiz:

```
 private static Connection getDBConnection() {
    Connection dbConnection = null;
    try {
       Class.forName(DB_DRIVER);
    } catch (ClassNotFoundException e) {
       System.out.println(e.getMessage());
    }
    try {
       dbConnection = DriverManager.getConnection(DB_CONNECTION, DB_USER,DB_PASSWORD);
       return dbConnection;
    } catch (SQLException e) {
       System.out.println(e.getMessage());
    }
    return dbConnection;
 }
```

Quyida mb ichida jadval xosil qilish metodini yaratamiz:

```
private static void createDbUserTable() throws SQLException {
   Connection dbConnection = null;
   Statement statement = null;
   String createTableSQL = "CREATE TABLE DBUSER("
         + "USER_ID NUMBER(5) NOT NULL, "
         + "USERNAME VARCHAR(20) NOT NULL, "
         + "CREATED_BY VARCHAR(20) NOT NULL, "
         + "CREATED_DATE DATE NOT NULL, " + "PRIMARY KEY (USER_ID) "
         + ")";
   try {
      dbConnection = getDBConnection();
      statement = dbConnection.createStatement();
           // SQL so’rovni bajarish
      statement.execute(createTableSQL);
      System.out.println("Table \"dbuser\" is created!");
   } catch (SQLException e) {
      System.out.println(e.getMessage());
   } finally {
      if (statement != null) {
         statement.close();
```

```
            }
            if (dbConnection != null) {
               dbConnection.close();       }    }}
```

main funksiyasi ichida createDbTable() metodini chaqirish:

```
      public static void main(String[] argv) {
         try {
            createDbUserTable();
         } catch (SQLException e) {
            System.out.println(e.getMessage());  }}
```

MBga ma’lumot kiritish:

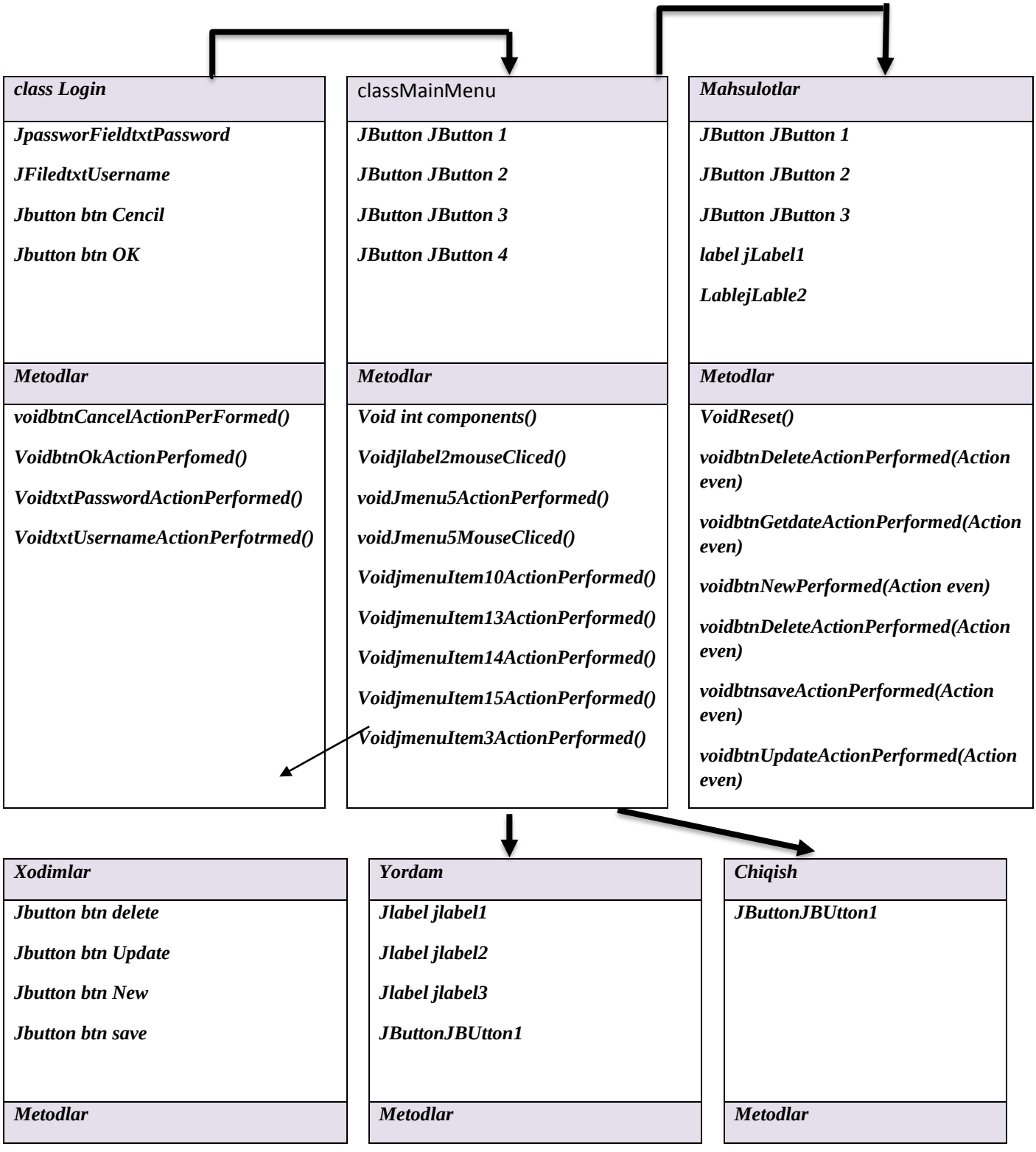
```
    String insertTableSQL = "INSERT INTO DBUSER"
                + "(USER_ID, USERNAME, CREATED_BY, CREATED_DATE) " + "VALUES"
                + "(1,'mkyong','system', " + "to_date('"
                + getCurrentTimeStamp() + "', 'yyyy/mm/dd hh24:mi:ss'))";
    private static String getCurrentTimeStamp() { Date today = new Date(); return
    dateFormat.format(today.getTime()); }
    statement.executeUpdate(insertTableSQL);
```

MB dan ma’lumotlarni o’qib olish:

```
String selectTableSQL = "SELECT USER_ID, USERNAME from DBUSER";
try {
   dbConnection = getDBConnection();
   statement = dbConnection.createStatement();
   ResultSet rs = statement.executeQuery(selectTableSQL);
 // Ma’lumot olingan bo’lsa while sikli ishga tushadi.
   while (rs.next()) {
      String userid = rs.getString("USER_ID");
      String username = rs.getString("USERNAME");
      System.out.println("userid : " + userid);
      System.out.println("username : " + username);
   }
} catch (SQLException e) {
   System.out.println(e.getMessage());}
```

3.3. UML sxemasi

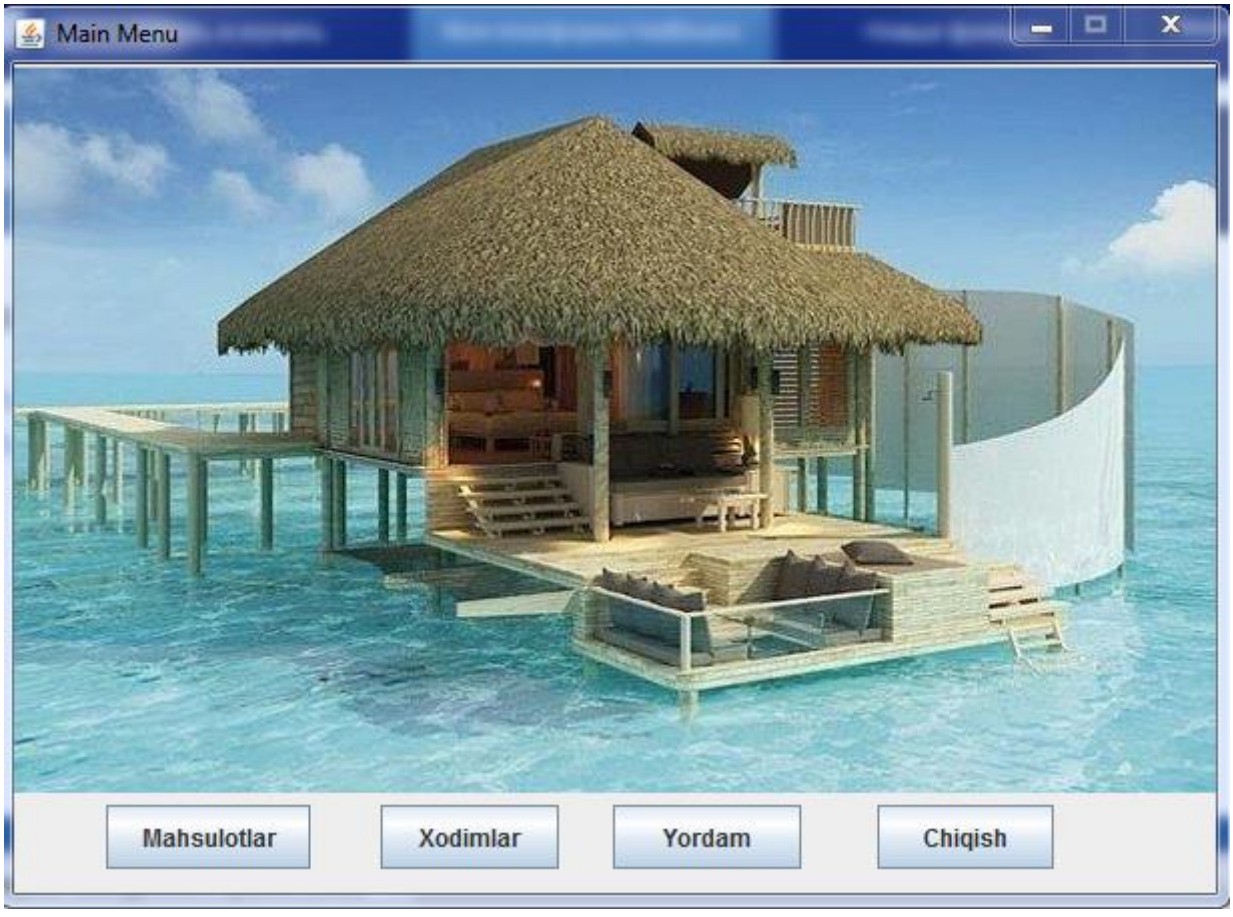
UML - bu yangi Unifikatsiyalangan modellashtirish tili (Unified Modeling Language) bo'lib, Gradi Buch, Ayvar Yakobson va Djeyms Rambo (Grady Booch, Ivar Jacobson, James Rumbaugh) tomonidan ob'ektga-yo'naltirilgan loyihalash va taxlilni xujjatlashning yangi standarti sifatida taklif qilingan.



voidbtnDeleteActionPerformed(Action even) ***voidbtnGetdateActionPerformed(Action even)*** ***voidbtnNewPerformed(Action even)*** ***voidbtnDeleteActionPerformed(Action even)***	***Voidchange passwordActionPerfomerd(action event)*** ***voidbtnchangePasswordMousecliced()*** ***void init componnents()***	***void Get_data()***

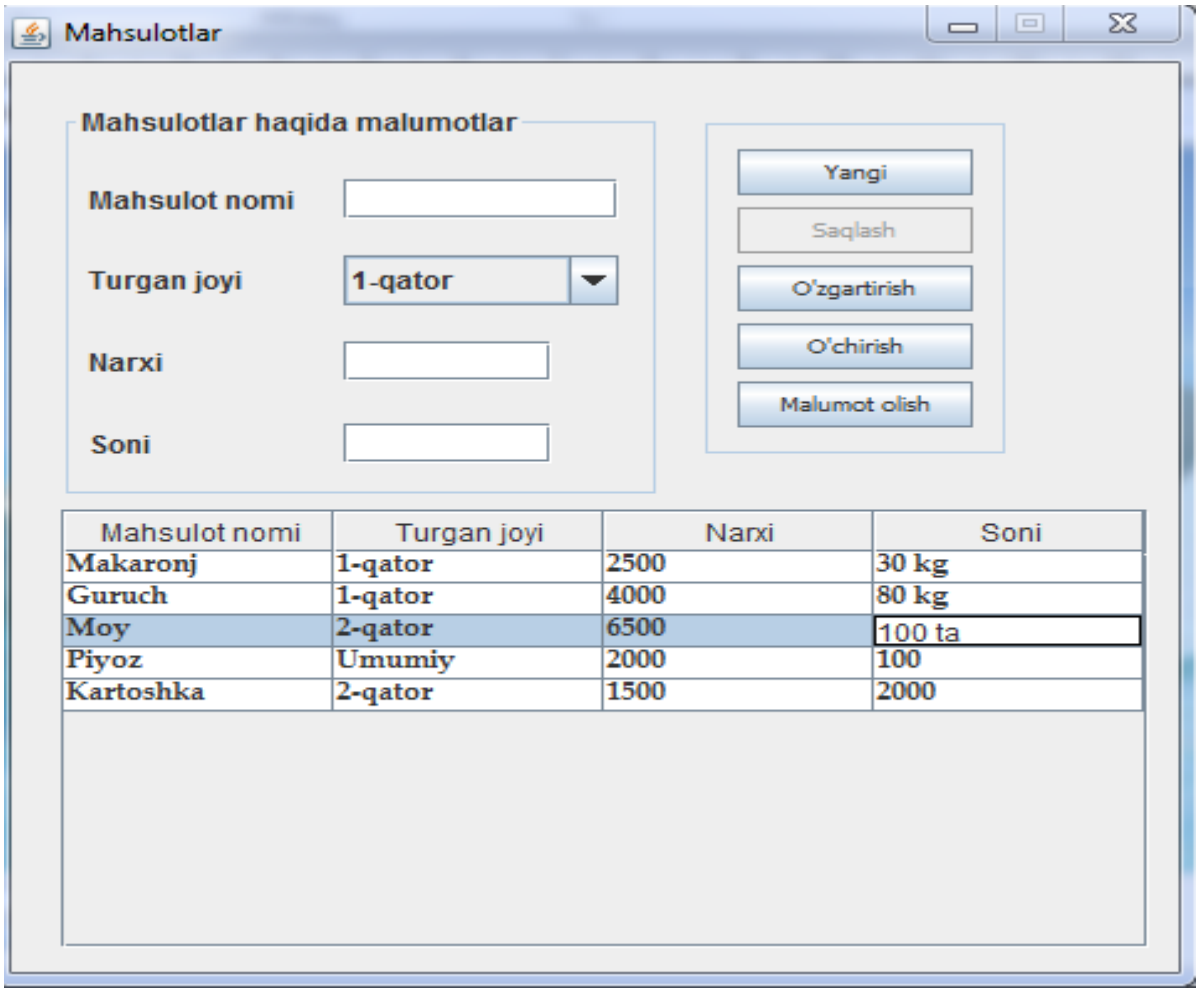
3.4. Dasturdan foydalanish

Bu oynada swingni Jbutton, Jlabel, Jtextbox componentlaridan foydalanganman



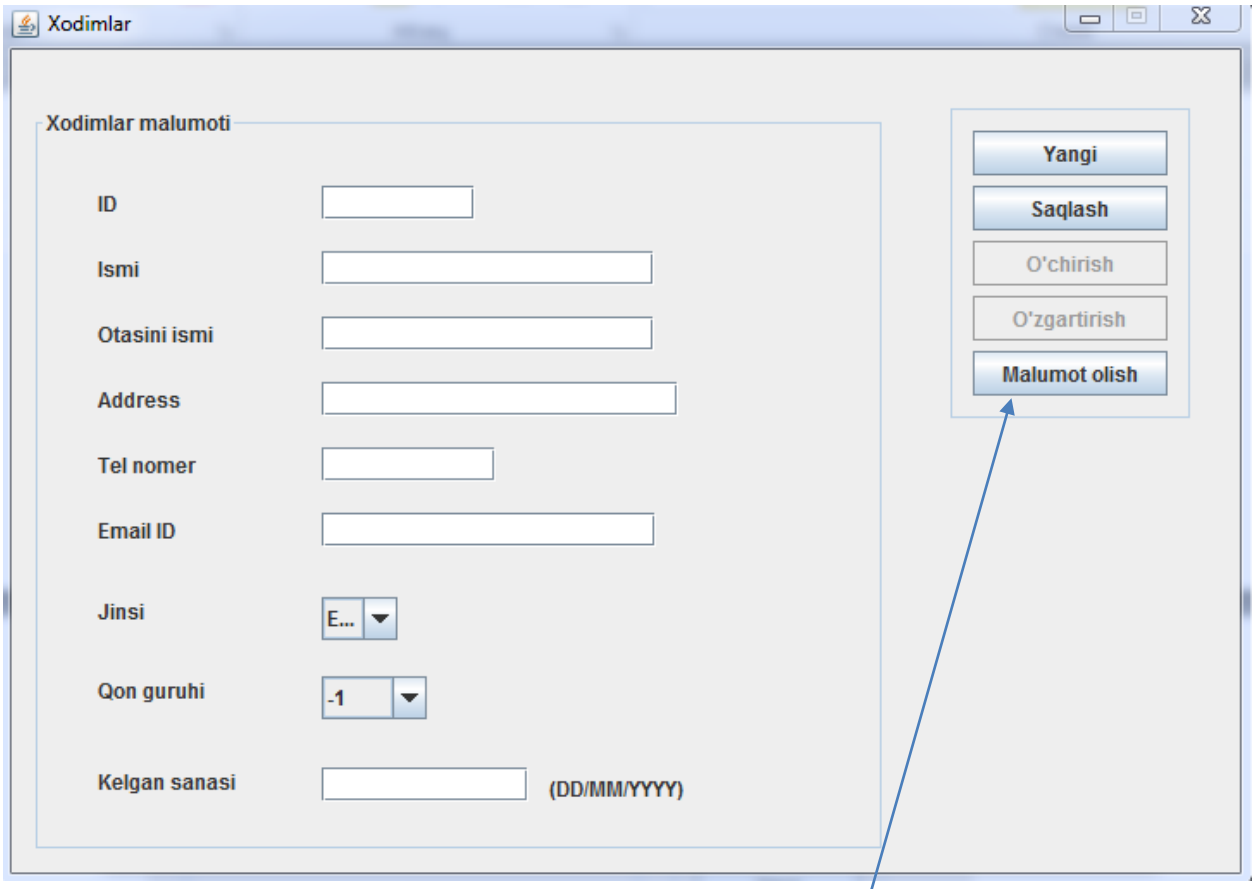
Ushbu oynada Jmenu componentasi ishlatilgan.

Maxsulotlar bo’limi.



Ushbu oynada Supermarketda xizmat ko’rsatish uyishmasining ma’lumotlari bazaga saqlanadi va bazadan o’zgartiriladi, o’chiriladi, kiritilgan malumot Jtable da foydalanuvchiga ko’rinib turadi.

Xodimlar bo’limi.



Ushbu oynada ishchi xodimlar haqidagi malumotlar ma’lumotlar bazaga saqlanadi va bazadan o’zgartiriladi, o’chiriladi.

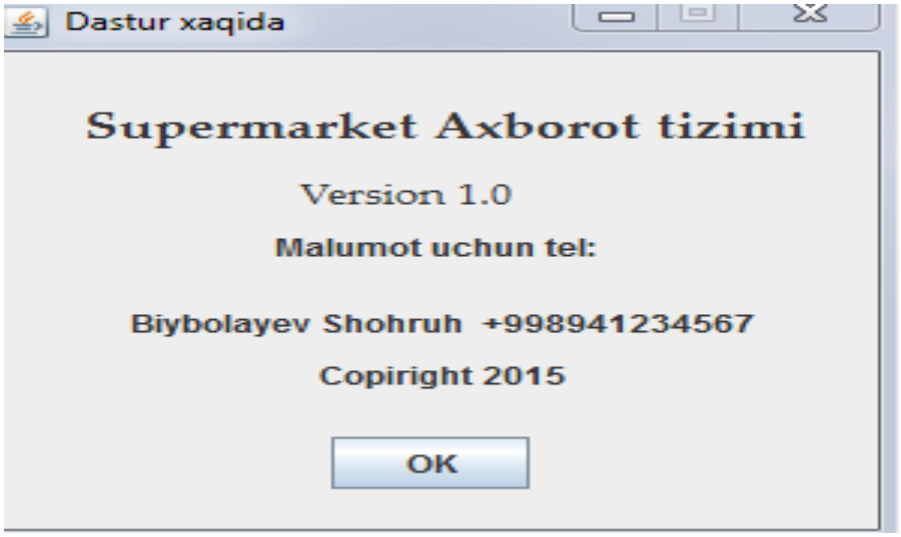
Supermarketda xizmat ko’rsatish uyishmasining ro’yxatga olish oynasi bu xaqda to’liq malumot olish uchun [malumot olish] tugmasi bosiladi.

U quydagicha ko’rinishda bo’ladi.

ID	Shifokor ismi	Otasini ismi	Address	Tel nomer	mail	Kasb	Mutaxasisiligi	jinsi	Qon guruhi	Kelgan sanasi
3	Sardor	Sobirov	Farg'ano	+998914567891	Sobirov.Sardorb...	Qorovul		Erkak	+2	11/11/2012
1	Shohruh	Rustamovich	GUlistan	+998941234567	shohruh@mail.ru	Kassir		Erkak	+1	12/12/2012
2	Siroj	Salimov	Samarqand	+998949876541	Salimov@mail....	Sotuvchi		Erkak	+2	11/11/2012

Bu oynada bazaga kiritilgan ma’lumotlarni boshqa menularga chaqirib olish imkoniyati bor, yani istalgan qatordagi malumotlar tanlanadi va bu ma’lumotlar ishchi oynasiga ko’chadi

Dastur haqida oynasi



IV. Xulosa

Xulosa qilib shuni aytamanki bu dasturni yaratish davomida o’z oldimga qo’ygan maqsadlarimga qisman bo’lsada erishdim. Dasturni tayyorlash davomida darslikdan tashqari qo’shimcha adabiyotlar o’qishga va ulardagi algaritmlardan o’rganib va foydalanib ko’rishga harakat qildim. Dasturni tuzish davomida java swingdan, javada obyektga yo’naltirilgan dasturlash elementlaridan foydalanishni, ma’lumotlar bazasidan foydalanishni o’rgandim.

Men qilgan dastur orqali supermarket ishchilari ishini oson va tezkor ishlashi uchun dasturga mahsulotlar haqida malumotlarni oson ro’yxatga olish, ro’yxatdan o’chirish, o’zgartirish amallarini kiritdim.

Ilovalar.

Connection database

```
import java.sql.*;
import javax.swing.*;
public class Connect {
    Connection con=null;

       public static Connection ConnectDB(){
           try{

         Class.forName("com.mysql.jdbc.Driver");
         Connection                                    con                                    =
DriverManager.getConnection("jdbc:mysql://localhost/mysql","root","");
         return con;

       }catch(ClassNotFoundException | SQLException e){
          JOptionPane.showMessageDialog(null, e);
          return null;
   }
}
}
import java.awt.*;
import java.awt.event.KeyEvent;
import java.sql.*;
import javax.swing.*;
public class Login extends javax.swing.JFrame {
Connection con=null;
ResultSet rs=null;
PreparedStatement pst=null;
   public Login() {
      initComponents();
      setLocationRelativeTo(null);
             }

   @SuppressWarnings("unchecked")
   // <editor-fold defaultstate="collapsed" desc="Generated Code">
   private void initComponents() {
```

```
        jMenuItem1 = new javax.swing.JMenuItem();
        filler1 = new javax.swing.Box.Filler(new java.awt.Dimension(0, 0), new java.awt.Dimension(0, 0), new java.awt.Dimension(32767, 0));
        jSplitPane1 = new javax.swing.JSplitPane();
        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        txtUserName = new javax.swing.JTextField();
        txtPassword = new javax.swing.JPasswordField();
        btnOK = new javax.swing.JButton();
        btnCancel = new javax.swing.JButton();
        filler2 = new javax.swing.Box.Filler(new java.awt.Dimension(0, 0), new java.awt.Dimension(0, 0), new java.awt.Dimension(32767, 0));
        jMenuItem1.setText("jMenuItem1");
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("Login ");
        setResizable(false);
        addMouseWheelListener(new java.awt.event.MouseWheelListener() {
            public void mouseWheelMoved(java.awt.event.MouseWheelEvent evt) {
                formMouseWheelMoved(evt);
            }
        });
        addWindowListener(new java.awt.event.WindowAdapter() {
            public void windowOpened(java.awt.event.WindowEvent evt) {
                formWindowOpened(evt);
            }
        });

        jLabel1.setText("Login");

        jLabel2.setText("Parol");

        txtUserName.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                txtUserNameMouseClicked(evt);
            }
        });
        txtUserName.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
        txtUserNameActionPerformed(evt);
    }
});
txtPassword.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        txtPasswordActionPerformed(evt);
    }
});
txtPassword.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyPressed(java.awt.event.KeyEvent evt) {
        txtPasswordKeyPressed(evt);
    }
});

btnOK.setText("OK");
btnOK.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        btnOKMouseClicked(evt);
    }
});
btnOK.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnOKActionPerformed(evt);
    }
});

btnCancel.setText("Bekor qilish");
btnCancel.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btnCancelActionPerformed(evt);
    }
});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(89, 89, 89)
                    .addComponent(filler2,      javax.swing.GroupLayout.PREFERRED_SIZE,      86,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(layout.createSequentialGroup()
                    .addGap(32, 32, 32)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jLabel2)
                        .addComponent(jLabel1))
                    .addGap(34, 34, 34)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(txtUserName,  javax.swing.GroupLayout.PREFERRED_SIZE,
166, javax.swing.GroupLayout.PREFERRED_SIZE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                                .addComponent(btnOK,        javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(btnCancel))
                            .addComponent(txtPassword,
javax.swing.GroupLayout.PREFERRED_SIZE,                                    166,
javax.swing.GroupLayout.PREFERRED_SIZE)))))
                .addContainerGap(54, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(35, 35, 35)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(jLabel1)
```

```
                .addComponent(txtUserName, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 20,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(txtPassword))
            .addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(btnOK)
                .addComponent(btnCancel))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(filler2, javax.swing.GroupLayout.PREFERRED_SIZE, 11,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(20, 20, 20))
        );

        pack();
    }// </editor-fold>


    private void btnOKMouseClicked(java.awt.event.MouseEvent evt) {
    if (txtUserName.getText().equals("")) {
            JOptionPane.showMessageDialog( this, "Please enter user name","Error",
JOptionPane.ERROR_MESSAGE);
            return;

             }
    String Password= String.valueOf(txtPassword.getPassword());
        if (Password.equals("")) {
            JOptionPane.showMessageDialog( this, "Please enter password","Error",
JOptionPane.ERROR_MESSAGE);
            return;

             }
```

```
    con=Connect.ConnectDB();
    String sql= "select * from hms_db.users where UserName= '" + txtUserName.getText() + "'
and user_Password ='" + txtPassword.getText() + "'";
    try
    {
       pst=con.prepareStatement(sql);
       rs= pst.executeQuery();
       if (rs.next()){
         this.hide();
         MainMenu frm=new MainMenu();
         frm.setVisible(true);
       }
       else{

        JOptionPane.showMessageDialog(null, "Login yoki parol xato !","Access
denied",JOptionPane.ERROR_MESSAGE);
       }
    }catch(SQLException | HeadlessException e){
      JOptionPane.showMessageDialog(null, e);

  }
  }

  private void btnCancelActionPerformed(java.awt.event.ActionEvent evt) {
     // TODO add your handling code here:
     System.exit(0);
  }



  private void txtPasswordKeyPressed(java.awt.event.KeyEvent evt) {
   if (evt.getKeyCode()==KeyEvent.VK_ENTER){
       con=Connect.ConnectDB();
    String sql= "select * from hms_db.users where UserName= '" + txtUserName.getText() + "'
and user_Password ='" + txtPassword.getText() + "'";
    try
    {
       pst=con.prepareStatement(sql);
       rs= pst.executeQuery();
```

```
        if (rs.next()){
          this.hide();
          MainMenu frm=new MainMenu();
          frm.setVisible(true);
        }
        else{

          JOptionPane.showMessageDialog(null, "Login yoki parol xato !","Access
denied",JOptionPane.ERROR_MESSAGE);
          txtUserName.setText("");
          txtPassword.setText("");
          txtUserName.requestDefaultFocus();
        }
     }catch(SQLException | HeadlessException e){
       JOptionPane.showMessageDialog(null, e);
}}}
       java.awt.EventQueue.invokeLater(new Runnable() {
          @Override
          public void run() {
             new Login().setVisible(true);
          }       });    }
   // Variables declaration - do not modify
   private javax.swing.JButton btnCancel;
   private javax.swing.JButton btnOK;
   private javax.swing.Box.Filler filler1;
   private javax.swing.Box.Filler filler2;
   private javax.swing.JLabel jLabel1;
   private javax.swing.JLabel jLabel2;
   private javax.swing.JMenuItem jMenuItem1;
   private javax.swing.JSplitPane jSplitPane1;
   public javax.swing.JPasswordField txtPassword;
   public javax.swing.JTextField txtUserName;}
```